



QC ABSTRACT

NAME OF WORK: "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
Materials						
1	Cement	Fineness by dry sieving	One Test		1	1
		Fineness by Air permeability method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
2	Coarse aggregate(40 mm down size)	Compressive Strength	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
3	Coarse aggregate(20 mm down size)	Water Absorption	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
4	Fine aggregate	Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
		Core Compressive strength	One Test		1	1
6	KERB	Corrected Cylinder Compressive strength	One Test		1	1
		Equivalent Cube Compressive strength	One Test		1	1
		Core Compressive Strength	One Test		1	1
7	Precast (100mm)	Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
		Core Compressive Strength	One Test		1	1

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	Precast (250mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
9	RCC(M20)	Compressive Strength(7days and 28days)	4 set /31-50 cum	36.3	8	8
10	GSD	SIEVE ANALYSIS	One Test		1	1
11	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
12	DBM	STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
		SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
13	BC	Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
		Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
14	A.E.E. BITUMEN	Flash Point	One Test		1	1
		Fire Point	One Test		1	1
		Rate of spread	One Test		1	1
15	TACK COAT					

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2021-06-25-46 Date: 15-03-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085
Customer's Reference : BBMP/EE/YNK D/EPMT-01/W O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 12-03-2021
Sample Type : Birla Super 53grade
Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2,3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5, Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11, DETERMINATION OF DENSITY , Clause 6
Date of test : 13-03-2021
Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.76	—
2	Fineness by Air permeability method (m ² /kg.Min)	292.2	225m ² /kg, Min
3	Density (gm/cc)	3.12	—
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	145 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

• The results obtained are satisfactory as per standard requirements.

Note:

The results pertain to the samples received and tested

All information furnished by Customer/Representative

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Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2021-06-25-46 Date: 10-04-2021

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"

Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085

Customer's Reference : BBMP/EE/YNK D/EPMT-01/W.O/12/2020-21

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-03-2021

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6

Date of test : 13-03-2021

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Compressive Strength			
SL.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm ²	Not less than 27 N/mm ²
2	7 Days	39.0N/mm ²	Not less than 37 N/mm ²
3	28 Days	58.5N/mm ²	Not less than 53 N/mm ²

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Quality Manager



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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2021-06-25-46 Date: 15-03-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
Customer's Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample condition : Satisfactory
Date of Receipt : 12-03-2021
Sample Type : 40mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 12-03-2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	247	247	1.6	98.4	90-100
3	20 mm	7874	8121	54.1	45.9	30-70
4	10 mm	3898	12019	80.1	19.9	10-35
5	4.75 mm	2587	14606	97.4	2.6	0-5
6	Pan	394	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2021-06-25-46 Date: 15-03-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
Customer Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 12-03-2021
Sample Type/ Size : 20mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 : 1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 12-03-2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	297	297	5.9	94.1	90-100
3	10 mm	2643	2940	58.8	41.2	25-55
4	4.75 mm	1812	4752	95.0	5.0	0-10
5	Pan	248	5000	100	0	-





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TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2021-06-25-46 Date: 15-03-2021

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"

Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085

Customer's Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-03-2021

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 : 1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption

Date of test : 12-03-2021

Total weight taken : 1000 grams

Sl.No	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result : The tested Sample Conforms to Grading Zone II

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TEST RESULTS OF STEEL

Lab ID : CP-2021-06-25-46 Date: 13-03-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hoskarehalli, Bangalore-560085
Customer's Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 12-03-2021
Sample Type : Sunvik
Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test : 12-03-2021

SLNo	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm ²)	(N/mm ²)	(%)		
1	Sunvik	Fe500	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2021-06-25-46
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : "Improvements and Asphalting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
 Agency : Sri M N Ramaiah, No.28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
 Customer's Reference : BBMP/EE/YNK D/EPMT-01/W O/12/2020-21
 Source of Sample : Sample supplied by Agency
 Sample Condition : Satisfactory
 Date of Receipt : 26-03-2021
 Customer ID : Drain Bottom Slab Concrete
 Sample Type /Size : 150X150X150 mm
 Sample grade/Age : M20 / 7 Days Compressive Strength
 Reference to BIS codes : IS 516 - 1959 Methods of Tests for Strength of Concrete C15
 Date of test : 31/03/2021

SL No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm ²)	(N/mm ²)
1	Drain Bottom Slab Concrete	M20	24/03/2021	31/03/2021	149.24 X 150.94 X 151.08	22525	8.322	405.9	18.0	18.5
2	Drain Bottom Slab Concrete	M20	24/03/2021	31/03/2021	151.29 X 151.37 X 150.17	22900	8.634	427.0	18.6	
3	Drain Bottom Slab Concrete	M20	24/03/2021	31/03/2021	149.49 X 151.10 X 150.42	22588	8.353	423.2	18.7	

Note: The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 03/04/2021

Lab ID : CP-2021-06-25-46
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : "Improvements and Asphaltting to Roads at Bestihara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
 Agency : Sri M N Ramaiah, No 28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
 Customer's Reference : BBMP/EE/YNK D/EPMT-01/W.O/12/2020-21
 Source of Sample : Sample supplied by Agency
 Sample Condition : Satisfactory
 Date of Receipt : 29-03-2021
 Customer ID : Drain Side Wall Concrete
 Sample Type /Size : 150X150X150 mm
 Sample grade/Age : M20 / 7 Days Compressive Strength
 Reference to BIS codes : IS : 516 - 1959 Methods of Tests for Strength of Concrete C15
 Date of test : 03/04/2021

SL No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm ²)	(N/mm ²)
1	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	150.56 X 150.27 X 149.03	22624	8.322	416.6	18.4	18.5
2	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	151.96 X 150.81 X 150.59	22917	8.634	435.2	19.0	
3	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	149.87 X 150.88 X 149.97	22613	8.353	409.2	18.1	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2021-06-25-46 Date: 03/04/2021

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"

Agency : Sri M N Ramaih, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085

Customer's Reference : BBMP/EE/YNK D/EPMT-01/W.O/12/2020-21

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 29-03-2021

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete C15

Date of test : 03/04/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm ²)	(N/mm ²)
1	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	149.71 X 149.99 X 149.73	22456	8.322	410.9	18.3	18.4
2	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	150.69 X 151.92 X 150.21	22893	8.634	418.5	18.3	
3	Drain Side Wall Concrete	M20	27/03/2021	03/04/2021	150.49 X 150.63 X 151.97	22667	8.353	424.3	18.7	

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**TEST RESULTS OF GRADATION FOR WMM**

Lab ID : CP-RW-2021-06-25-46 Date: 19-04-2021
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
 Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085
 Customer Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
 Source of Sample : Sample supplied by Agency
 Sample Condition : Satisfactory
 Date of Receipt : 17-04-2021
 Type of Mix : WMM (Wet Mix Macadam)
 Date of Test : 17-04-2021
 Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

The results obtained are satisfactory as per standard requirements.
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 Quality Manager



DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE (IS 2386 (Part 1) 1963 (RA 2007))

Lab ID : CP-RW-2021-06-25-46 Date: 19-04-2021
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
 Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
 Customer Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
 Source of Sample : Sample supplied by Agency
 Sample Condition : Satisfactory
 Date of Receipt : 17-04-2021
 Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)
 Date of Test : 17-04-2021

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

AE-2 The results obtained are satisfactory as per standard requirements.
 Note:-

The results pertain to the samples received and tested.

All information Furnished by Customer/ Representative

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TEST REPORT OF AGGREGATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : CP-RW-2021-06-25-46 Date: 18-06-2021
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
 Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
 Customer Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
 Source of Sample : Sample supplied by Agency
 Sample Condition : Satisfactory
 Date of Receipt : 15-06-2021
 Type of Mix : DBM(Dense Bitumnous Macadam)
 Date of Test : 15-06-2021

Type of Binder :
 % of Binder Used : 60/70
 Weight of Aggregate : 5.0%
 Weight of Binder : 200.0 gm
 Temperature of water bath : 10.0 gm
 : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR BC IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : CP-RW-2021-06-25-46 Date: 21-06-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085
Customer Reference : BBMP/EE/YNK.D/EPMT-01/W.O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 19-06-2021
Type of Mix : BC-Plant (Bituminous Concrete)
Date of Test : 19-06-2021
Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.
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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : CP-RW-2021-06-25-46 Date: 22-06-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarehalli, Bangalore-560085
Customer Reference : BBMP/EE/YNK D/EPMT-01/W.O/12/2020-21
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 19-06-2021
Type of Mix : BC (Bituminous Concrete)
Date of Test : 19-06-2021

Table 500-16 : Physical Requirements for Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

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**DETERMINATION OF RATE OF SPREAD TACK COAT**

Lab ID : CP-RW-2021-06-25-46 Date: 25-06-2021
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : "Improvements and Asphaltting to Roads at Besthara Bheedhi in Chowdeshwari Ward No-02 of Yelahanka Sub Division"
Agency : Sri M N Ramaiah, No:28, 6th Main Road BSK 3rd Stage, Dathathreyanagara, Hosakarchalli, Bangalore-560085
Customer Reference : BBMP/EE/YNK D/EPMT-01/W.O/12/2020-21
Sample Condition : Satisfactory
Date of Receipt : 24-06-2021
Type of Mix : Tack coat
Date of Test : 24-06-2021

SLNo	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.
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